

# Install & Configure Apache with PHP, JSP, MySQL, and PHPMyAdmin on Windows 2000/XP

Revision 5

Jeff Lundberg – [contact@jefflundberg.com](mailto:contact@jefflundberg.com)

This is a quick guide to install and configure the Apache web-server with PHP and JSP support on a Windows XP Pro SP2 machine. Let me know if this helps you out! Feedback is appreciated. This is my first “published” guide. I made it for my own reference. Why not share?

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## Versions used:

Apache	2.0.52
PHP	5.0.3
Tomcat	5.5.4
Java 2 Standard Edition	5.0
MySQL	4.1.7
MyODBC Connector/ODBC	3.51.10
PHPMyAdmin	2.6.0, patch level 3

## Change Log:

- |            |   |   |
|------------|---|---|
| 2004.12.16 | Jeff Lundberg   | <ul style="list-style-type: none"><li>• Updated to PHP 5.0.3</li><li>• Fixed PHP mysql module problems</li><li>• Fixed PHPMyAdmin</li><li>• Updated some screenshots</li></ul>  |
| 2004.11.24 | Jeff Lundberg,<br>Mark Gearhart                                     | <ul style="list-style-type: none"><li>• Upgraded all versions.</li><li>• Updated Tomcat installation Instructions (thanks to Mark Gearhart for some updates).</li><li>• Verified everything works with Windows XP SP2. (except mysql support in PHP!)</li><li>• New screenshots – now featuring <a href="#">Firefox</a>.</li><li>• Reverted back to WinXP. Still works in 2000.</li></ul> |
| 2003.08.18 | Rob Garry<br>rob.garry@bentley.com                                  | <ul style="list-style-type: none"><li>• Changed workers.properties file</li><li>• Used mod_jk2 connector</li><li>• Updated version numbers</li><li>• Using Windows 2000 instead of XP. (C:\WINDOWS becomes C:\WINNT)</li></ul>  |
| 2002.08.01 | Jeff Lundberg,<br>Andrew Conrad,<br>Rick Reumann,<br>Dallas Thunder | <ul style="list-style-type: none"><li>• Changed workers.properties file – the ajp14 stuff was removed</li><li>• Modified php.ini. Changed the following:<br/>include_path = ".;c:\php\includes"<br/>session.save_path = C:\Temp<br/>session.cookie_path = \</li></ul>   |
| 2002.07.31 | Jeff Lundberg   | <ul style="list-style-type: none"><li>• Modified workers.properties file – some paths were for older versions of Tomcat</li></ul>   |
| 2002.07.26 | Jeff Lundberg   | <ul style="list-style-type: none"><li>• Modified step 5 of JSP install - hardcoded the Tomcat configuration into the Apache httpd.conf file.</li><li>• Also added MySQL installation instructions.</li></ul>  |

## Download the Components

Before you can begin, you must first download all the required components. The components used in this tutorial are listed below. You may want to download the latest versions. The versions used in the tutorial have been verified to work.

### Apache Web Server

- <http://httpd.apache.org/>
- <http://httpd.apache.org/dist/httpd/binaries/win32/>
- [apache\\_2.0.52-win32-x86-no\\_ssl.msi](#)

### PHP

- <http://www.php.net/>
- <http://www.php.net/downloads.php>
- [php-5.0.3-Win32.zip](#)
- **Note:** Choose PHP 4 if you wish to use PHPMyAdmin. It didn't work out of the box with PHP 5. Some additional configuration is required. If you get it to work with PHP 5, please drop me a line: [contact@jefflundberg.com](mailto:contact@jefflundberg.com).

### JSP

- Tomcat (<http://jakarta.apache.org/site/binindex.cgi>)
  - [jakarta-tomcat-5.5.4.exe](#)
- JK2 Connector
  - <http://apache.mirrors.esat.net/jakarta/tomcat-connectors/jk2/binaries/win32/>
  - [jakarta-tomcat-connectors-jk2.0.4-win32-apache2.0.49.zip](#)
- Java
  - Download the latest Java Runtime.
  - <http://java.sun.com/>
    - Click on **J2SE (Core/Desktop)**
    - Click on **J2SE 5.0**
    - Click **Downloads** (on the left hand side)
    - Click **Download JRE**
    - Accept & click **Continue**
    - Under "Windows Platform", choose the "Windows Offline Installation"
  - [jre-1\\_5\\_0-windows-i586.exe](#)

### MySQL

- MySQL Database
  - <http://dev.mysql.com/downloads/mysql/>
  - Download the latest stable release for Windows
  - [mysql-4.1.7-win.zip](#)
- MyODBC
  - <http://www.mysql.com/downloads/>
  - Download the latest stable release of Connector/ODBC for Windows
  - [MyODBC-3.51.10-x86-win-32bit.msi](#)
- PHPMyAdmin
  - <http://www.phpmyadmin.net/>
  - Download the latest stable release of PHPMyAdmin (.php files)
  - [phpMyAdmin-2.6.0-pl3.zip](#)

## Install Components

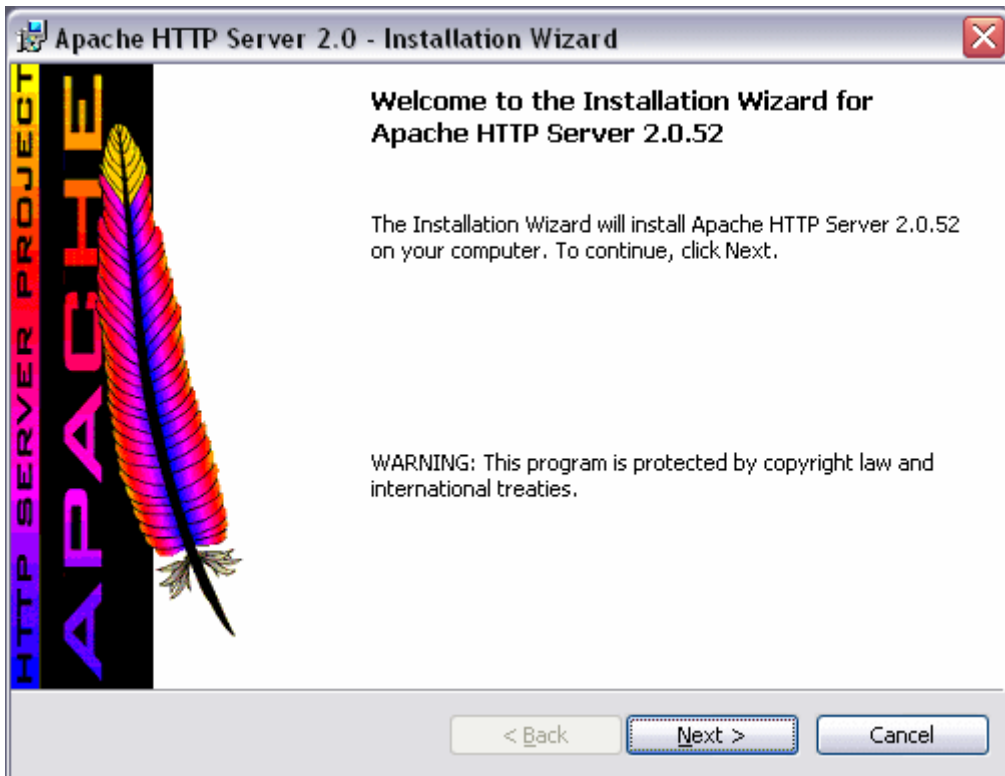
Now that you have the necessary files, you can begin the installation process. We will install Apache, PHP, then the Java SDK and Tomcat.

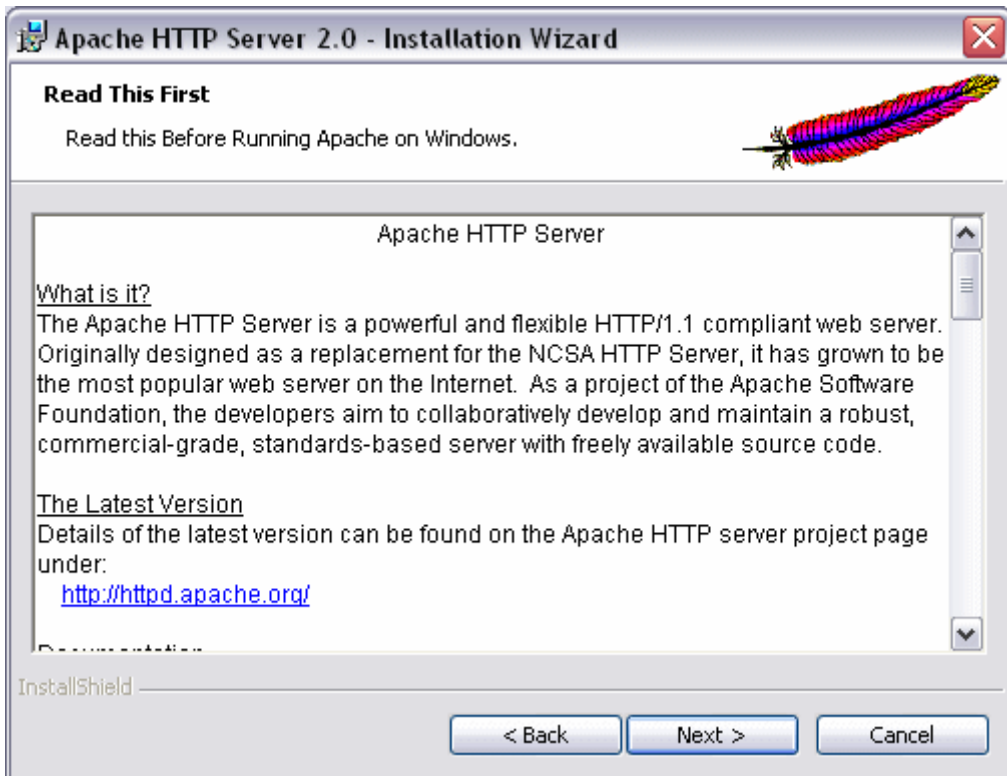
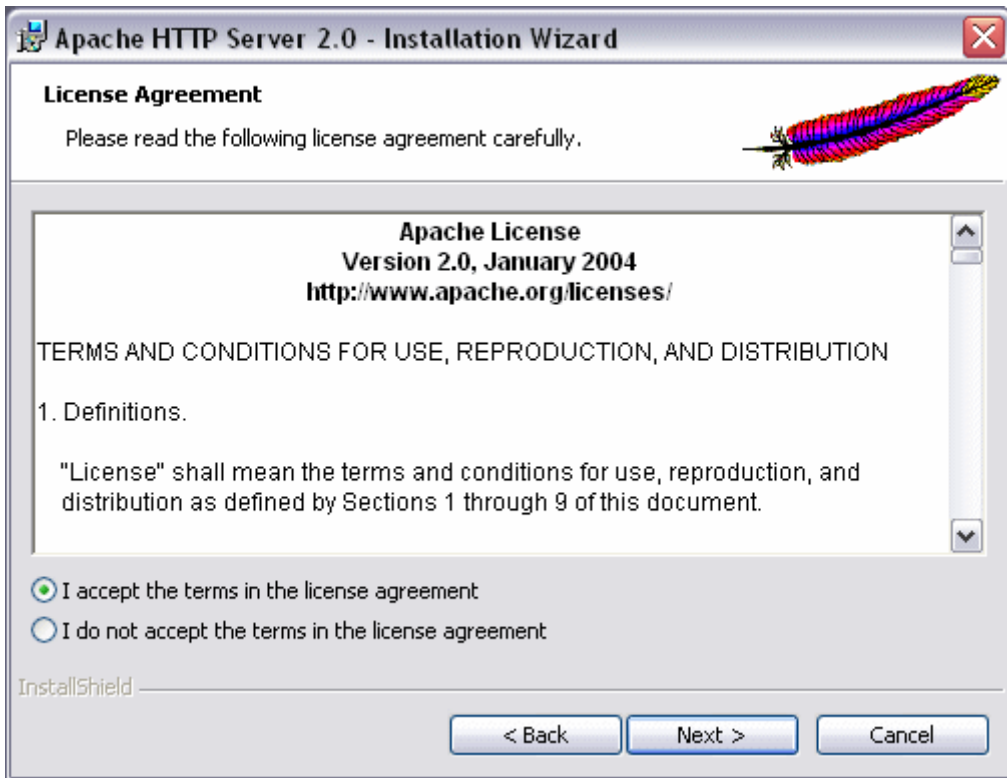
### Note to Windows 2000 users:

This guide should work with Windows 2000 as well. Remember to replace C:\WINDOWS with C:\WINNT anywhere in this document.

## Apache

1. Run `apache_2.0.52-win32-x86-no_ssl.msi`





2. Fill in the information and choose "for All Users, on Port 80, as a Service -- Recommended" when prompted.

**Apache HTTP Server 2.0 - Installation Wizard**

**Server Information**

Please enter your server's information.

Network Domain (e.g. somenet.com)

Server Name (e.g. www.somenet.com):

Administrator's Email Address (e.g. webmaster@somenet.com):

Install Apache HTTP Server 2.0 programs and shortcuts for:

- for All Users, on Port 80, as a Service -- Recommended.
- only for the Current User, on Port 8080, when started Manually.

InstallShield

< Back   Next >   Cancel

**Apache HTTP Server 2.0 - Installation Wizard**

**Setup Type**

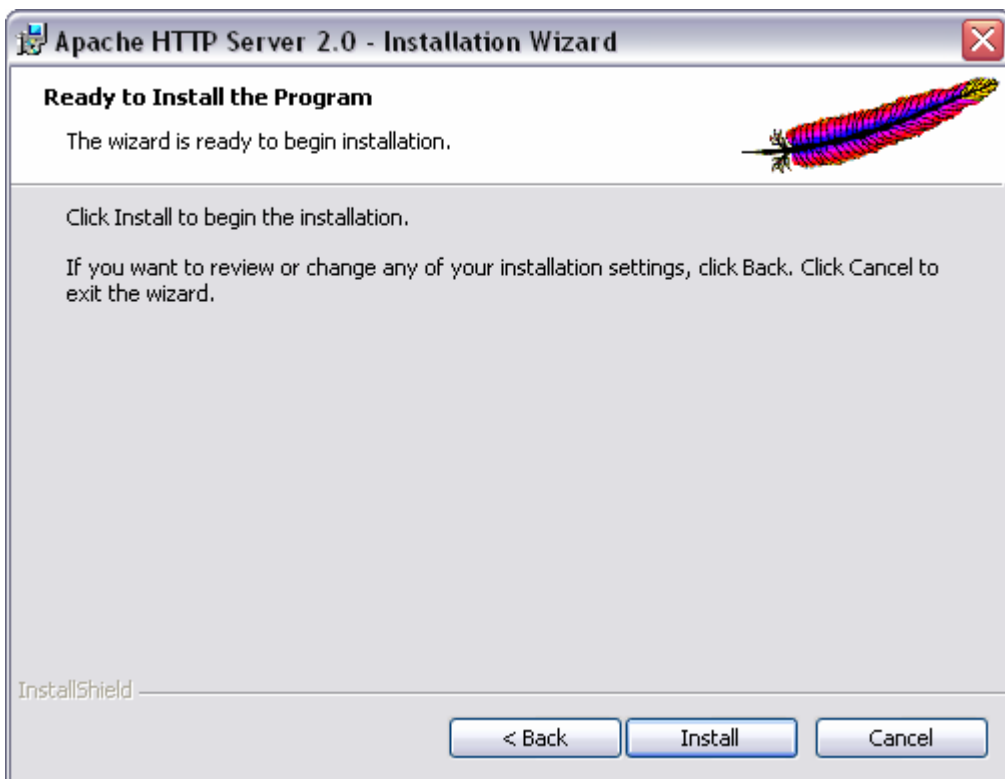
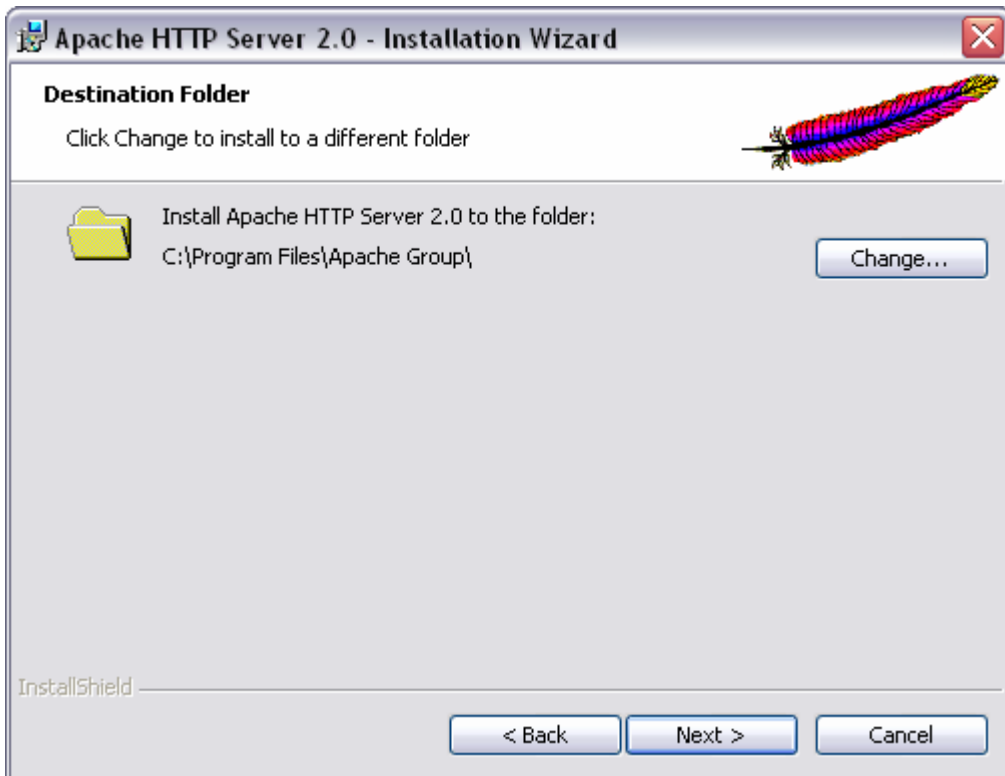
Choose the setup type that best suits your needs.

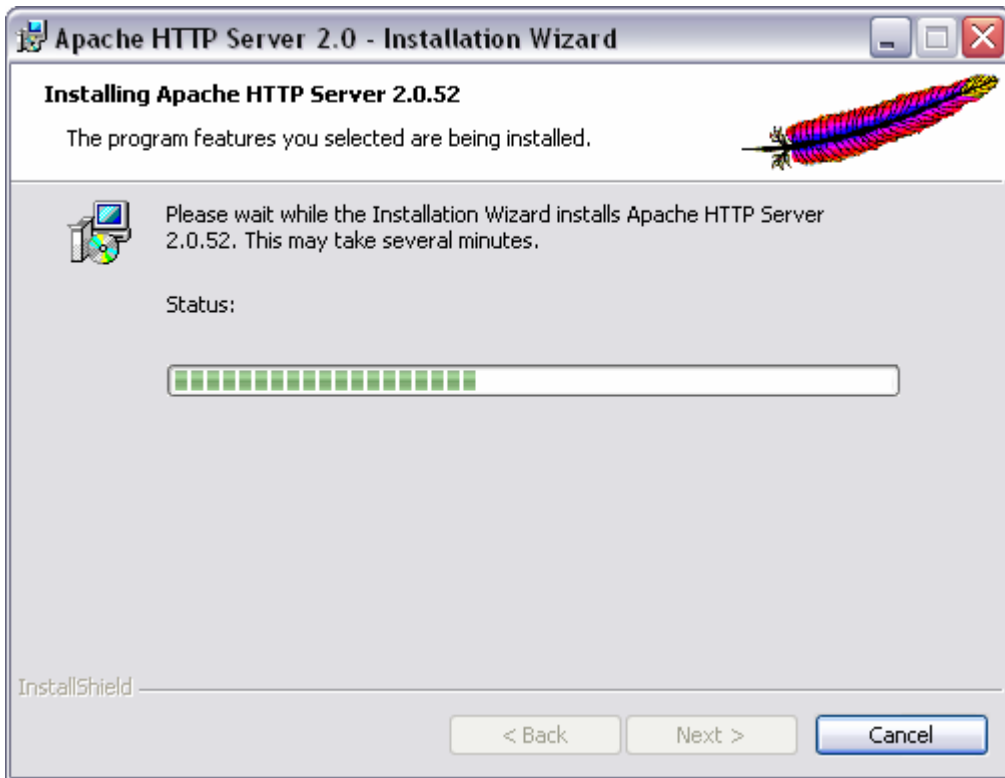
Please select a setup type.

- Typical**  
 Typical program features will be installed. (Headers and Libraries for compiling modules will not be installed.)
- Custom**  
 Choose which program features you want installed and where they will be installed. Recommended for advanced users.

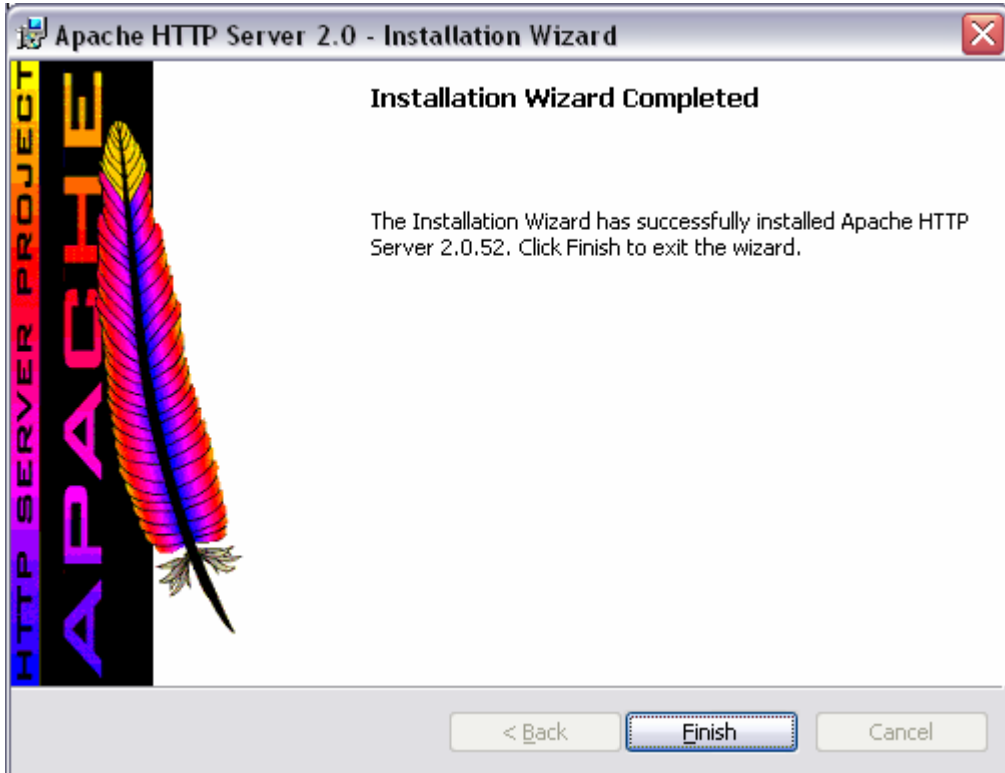
InstallShield

< Back   Next >   Cancel





3. Finish the installation program.

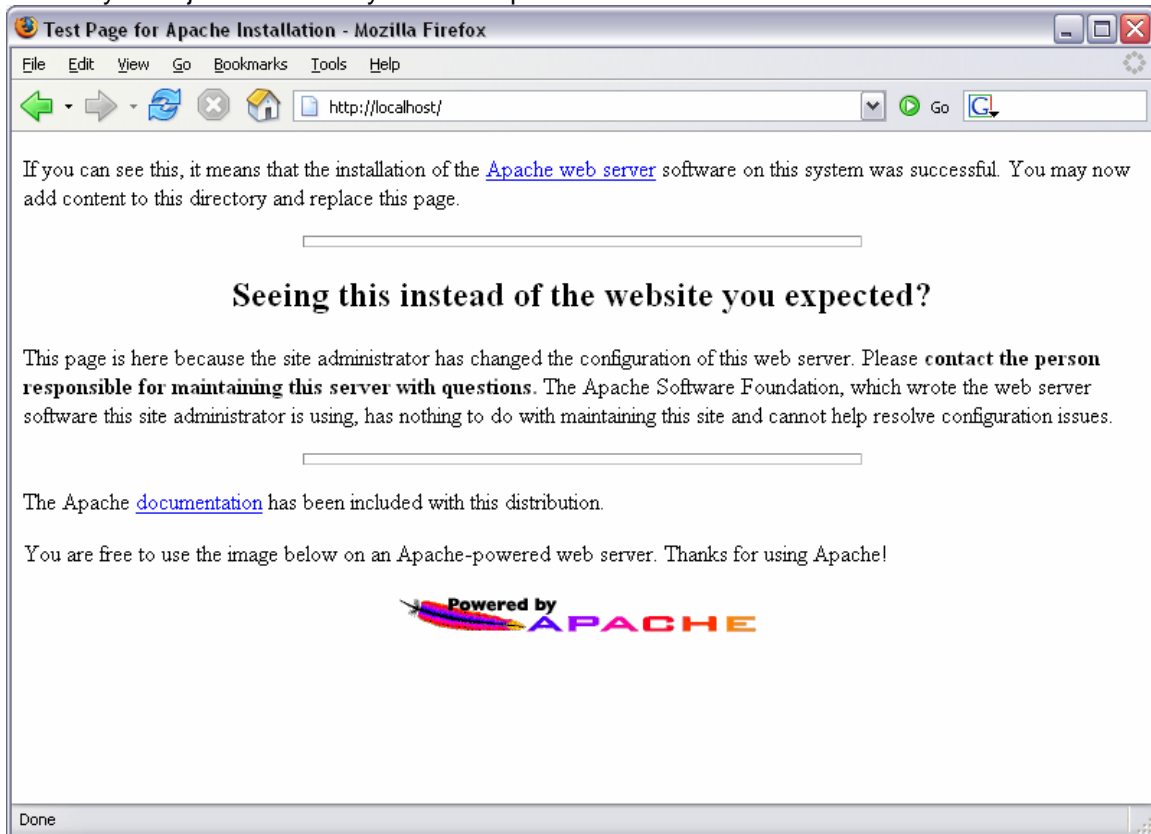




4. Select **Unblock** on the Windows Security Alert.

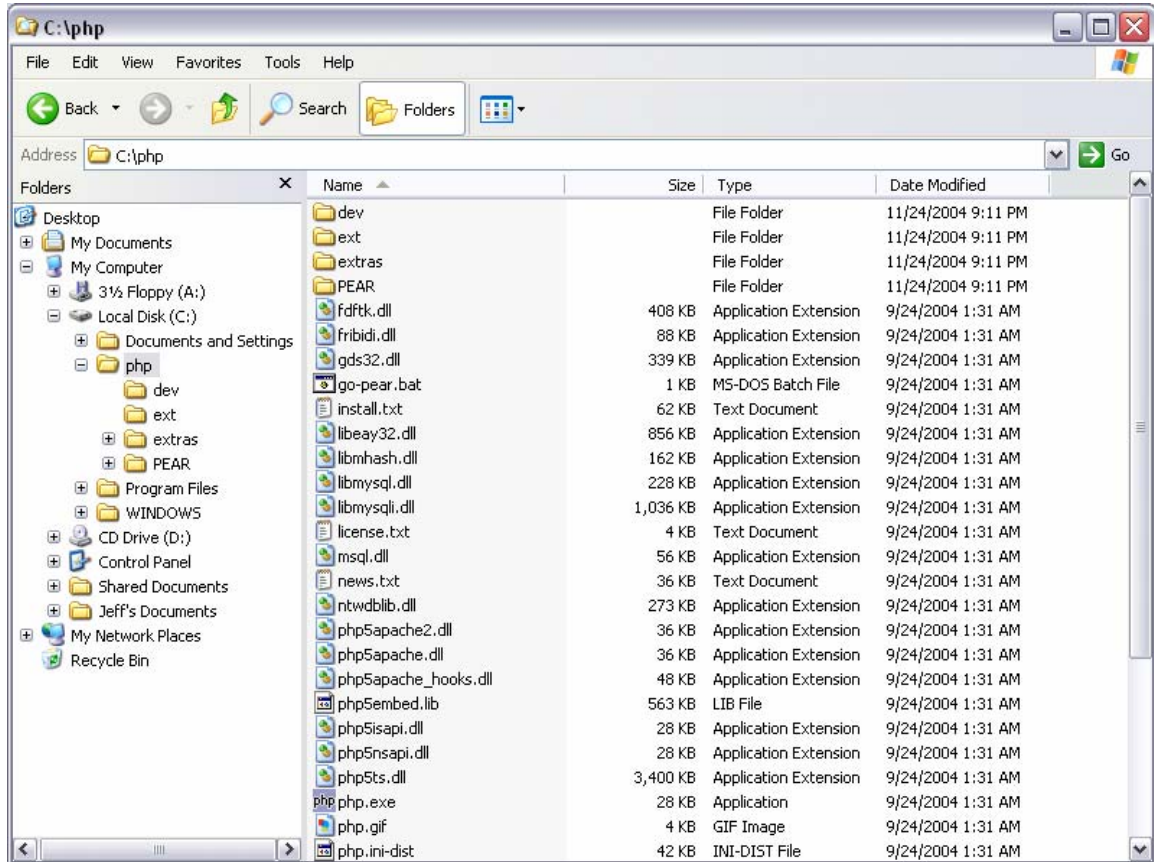


5. **Test:** Open <http://localhost> in a web browser. If you see something like that following, you've just successfully installed Apache!



# PHP

1. Extract **php-5.0.3-Win32.zip** into C:\php



2. Copy and rename c:\php\php.ini-recommended to C:\php\php.ini  
**Note:** Before, we used to copy php.ini to the C:\WINDOWS directory. This is not required with the Apache "PHPIniDir" directive pointing to c:\php.
3. Open php.ini and change the following and then save it.

```
include_path = ".;C:\php\includes\  
session.save_path = "C:\Temp"  
session.cookie_path = \  
doc_root = "C:\Program Files\Apache Group\Apache2\htdocs"  
extension_dir = "C:\php\ext\  
extension=php_mysql.dll  
extension=php_mysqli.dll  
mysql.default_port = 3306  
mysql.default_host = localhost  
mysql.default_user = root  
mysqli.default_port = 3306  
mysqli.default_host = localhost  
mysqli.default_user = root
```

4. Add C:\php to your PATH System Environment Variable.
  - a. Right-click on My Computer and choose **Properties**.

- b. Select the **Advanced** tab.
- c. Click **Environment Variables**.
- d. Under **System variables**, select "Path" and choose Edit.
- e. Move the cursor to the end of the string and add ;C:\php.
  - i. A basic path will look something like the following

```
%SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;
C:\php
```

**Note:** If you don't want to add C:\php to your path, you may copy libmysql.dll and libmysql.dll to your C:\Windows\System directory.

5. Add the following lines to *httpd.conf*:

**Note:** httpd.conf is located in C:\Program Files\Apache Group\Apache2\conf\

```
LoadModule php5_module "c:/php/php5apache2.dll"
AddType application/x-httpd-php .php
PHPIniDir "C:/php"
```

6. Change the following line in the *httpd.conf*.

**Note:** If you don't plan on adding JSP support, don't add index.jsp.

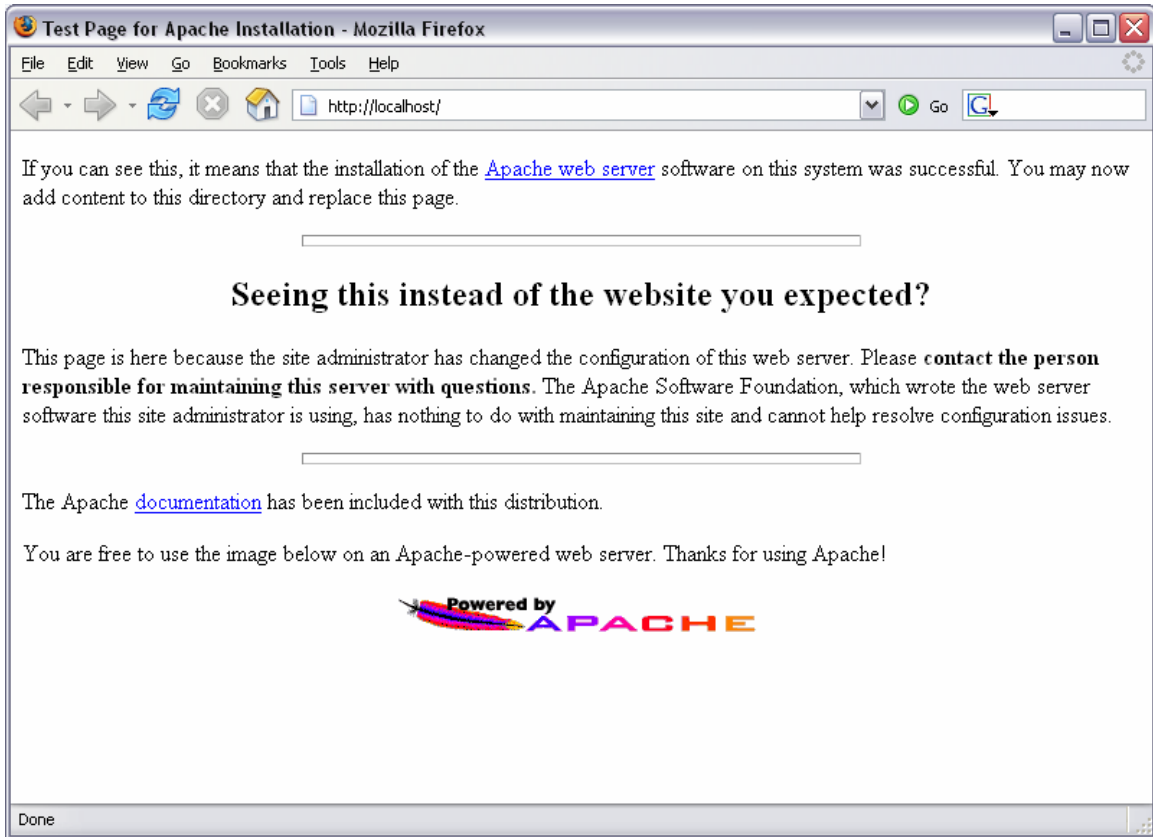
```
From:
DirectoryIndex index.html index.html.var

To:
DirectoryIndex index.php index.jsp index.html index.html.var
```

7. **Test:** Restart Apache & open <http://localhost> in a web browser. Hopefully you see the same thing as before.

**Hint:** To quickly restart Apache, simply left-click (once) on the Apache system tray icon.



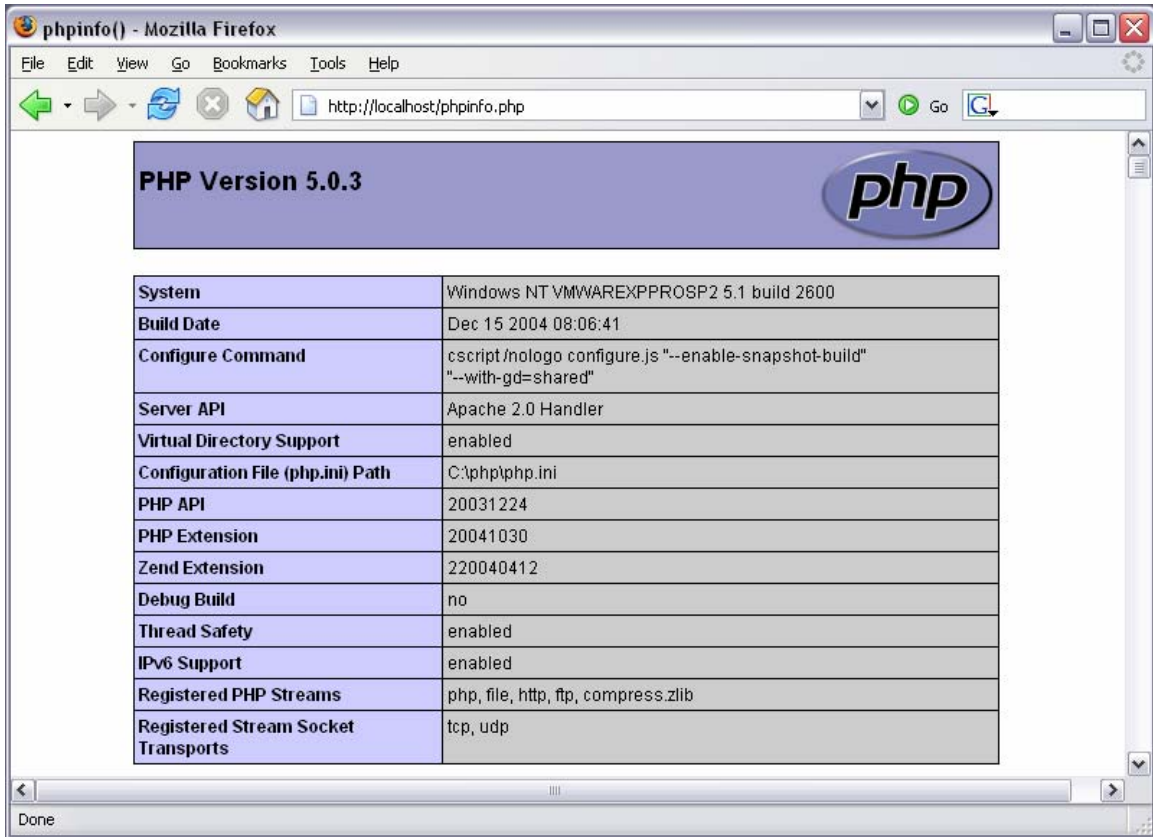


8. **Test:** Create a new text file called *phpinfo.php*. Paste the following into it.

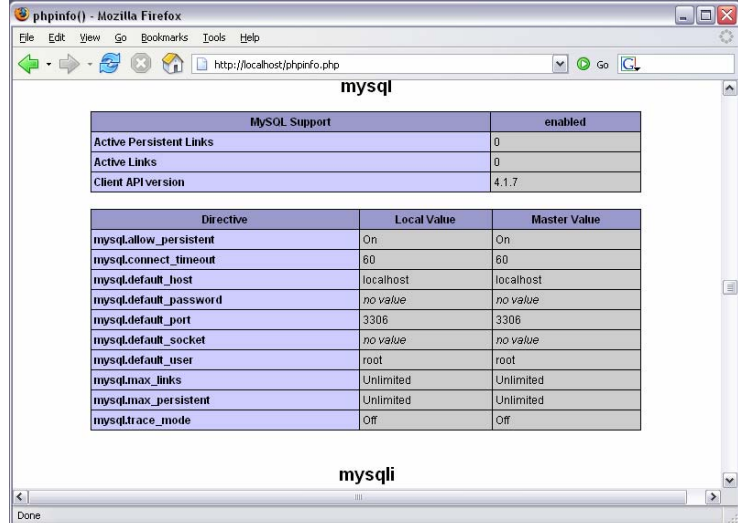
#### **phpinfo.php**

```
<?php phpinfo();?>
```

Save the document under C:\Program Files\Apache Group\Apache2\htdocs. Now open <http://localhost/phpinfo.php> in a web browser. You should see something like the following:

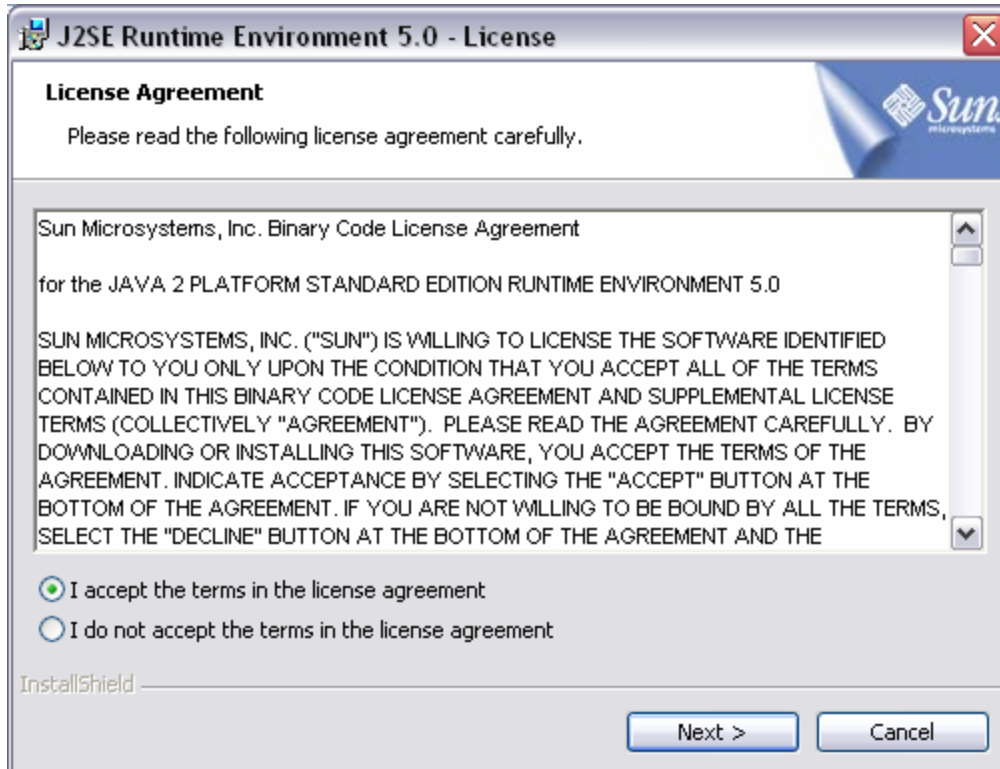


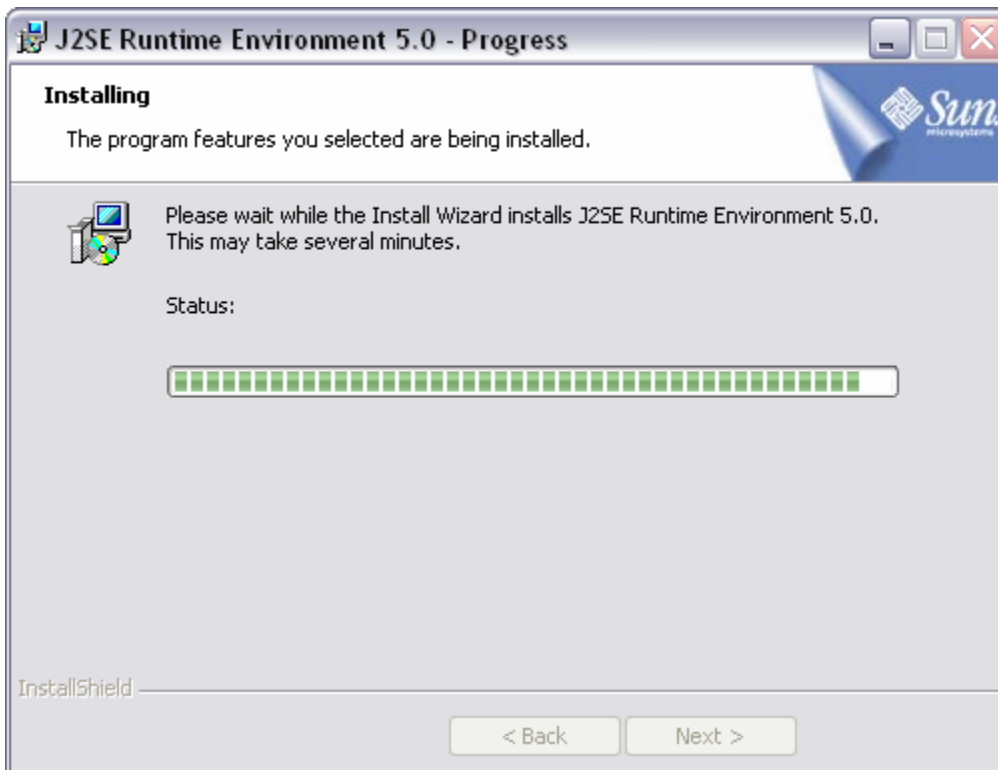
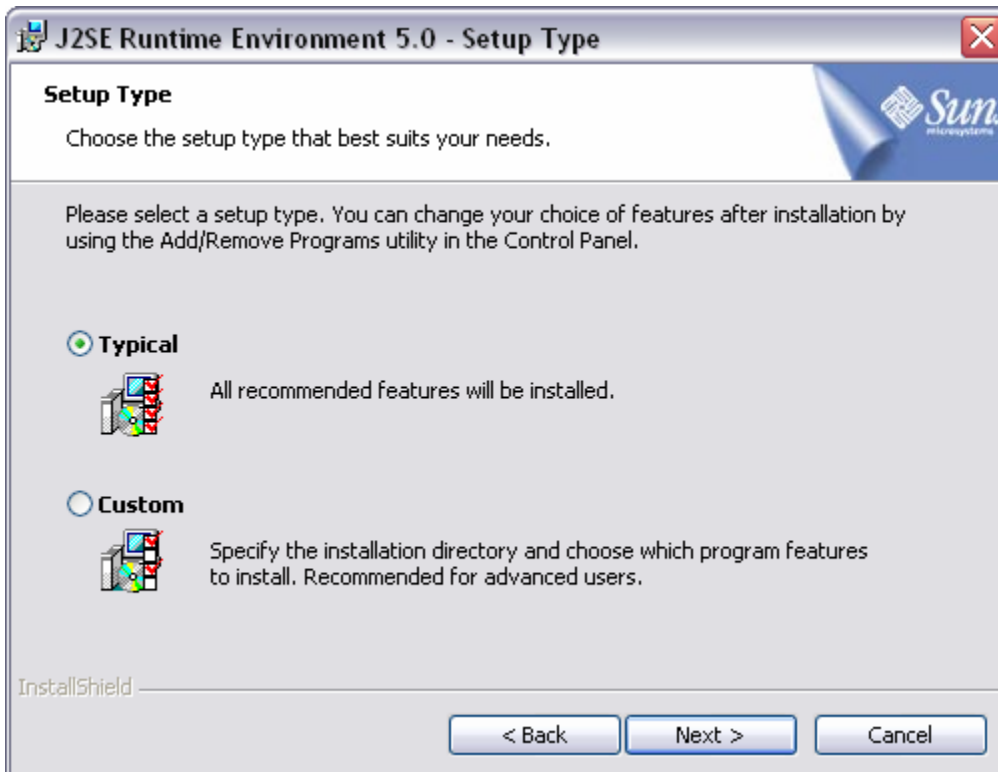
To check if the modules are loading correctly, scroll down. If the modules are working, you should see a section for "mysql" and "mysqli".



# JSP

1. Run `jre-1_5_0-windows-i586.exe`



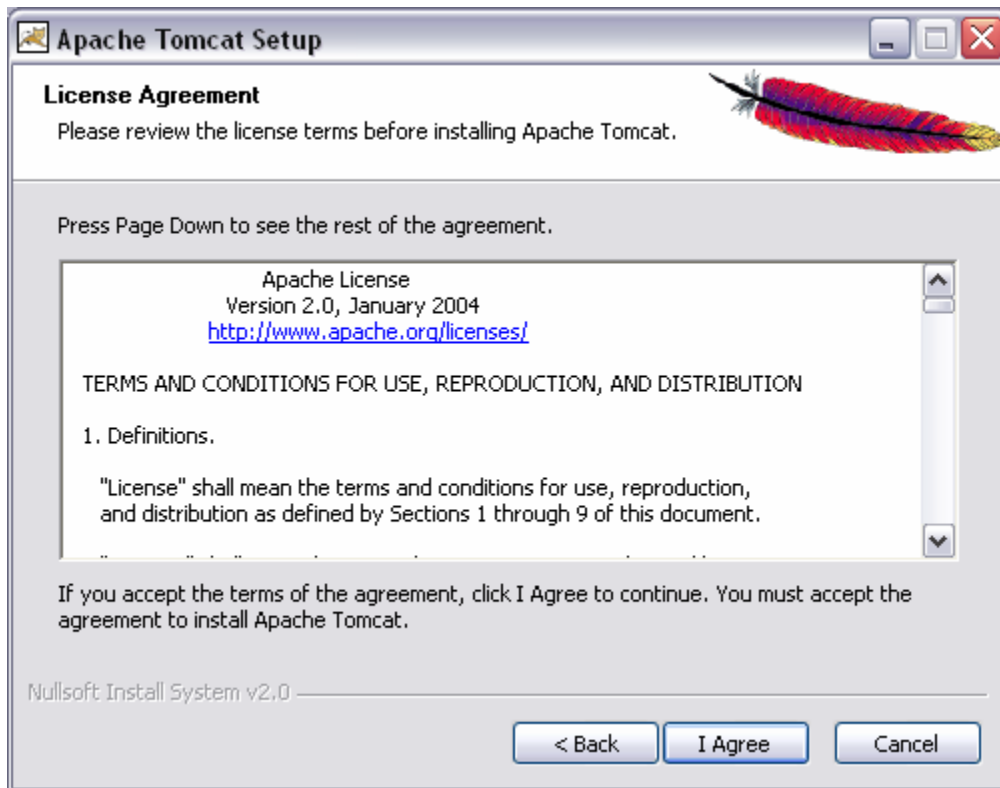




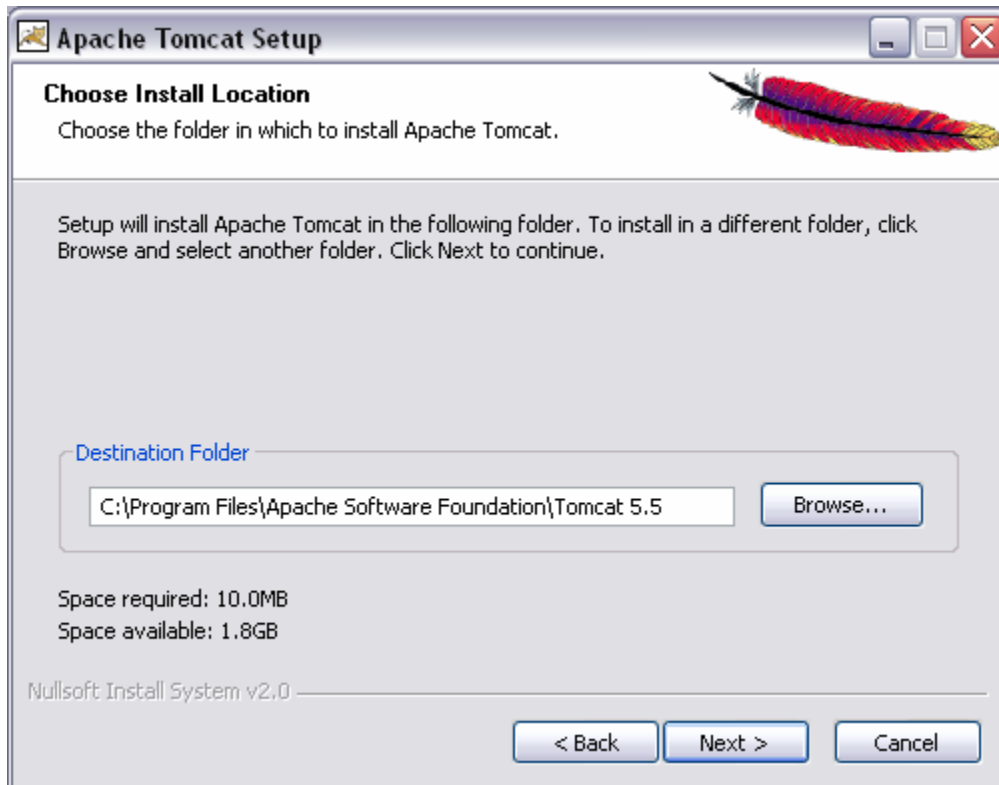
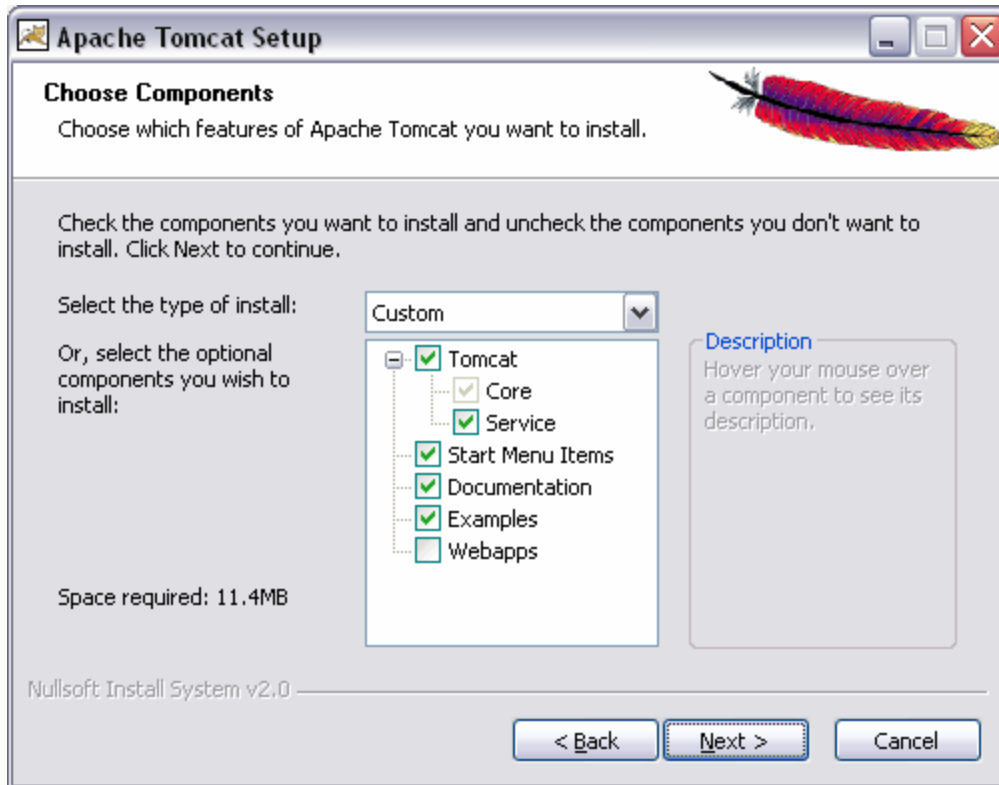
2. Run `jakarta-tomcat-5.5.4.exe`.







3. Select service to have Tomcat automatically startup when Windows starts.  
**Note:** If you want to run some tests later, install the Examples as well. The examples allow you to test everything to make sure it's all working properly.



4. Type in some admin password you can remember. Leave it on port 8080.

**Apache Tomcat Setup: Configuration Options**

**Configuration**  
Tomcat basic configuration.

HTTP/1.1 Connector Port

Administrator Login

User Name

Password

Nullsoft Install System v2.0

< Back   Next >   Cancel

**Apache Tomcat Setup: Java Virtual Machine path selection**

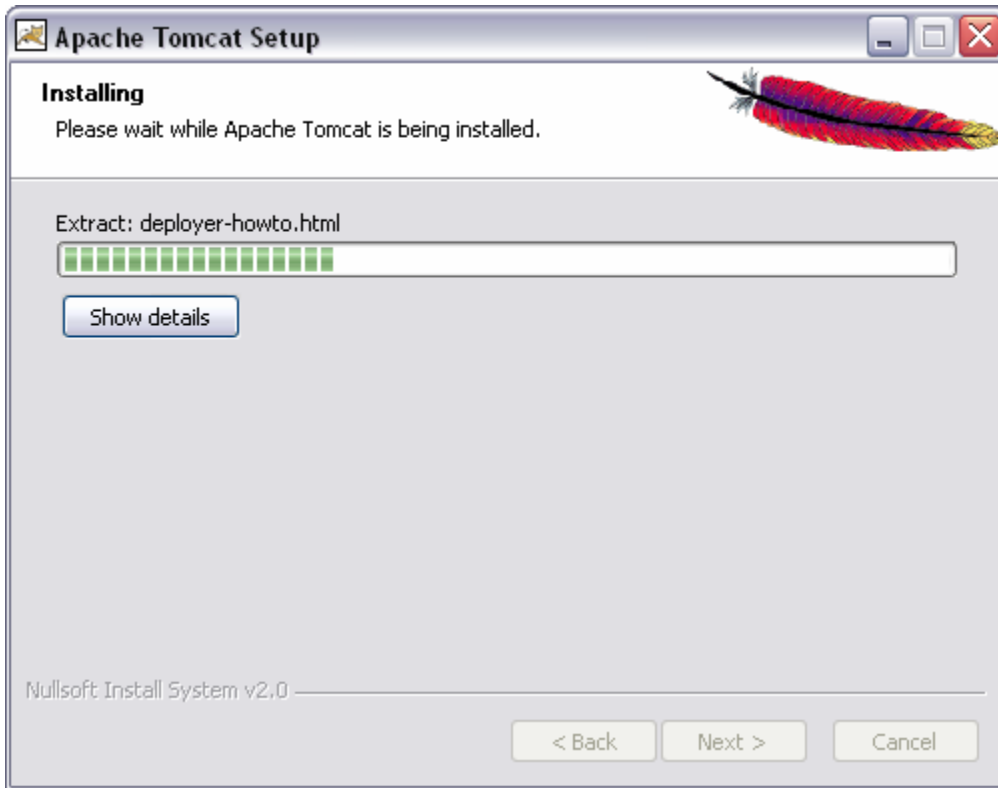
**Java Virtual Machine**  
Java Virtual Machine path selection.

Please select the path of a J2SE 5.0 JRE installed on your system:

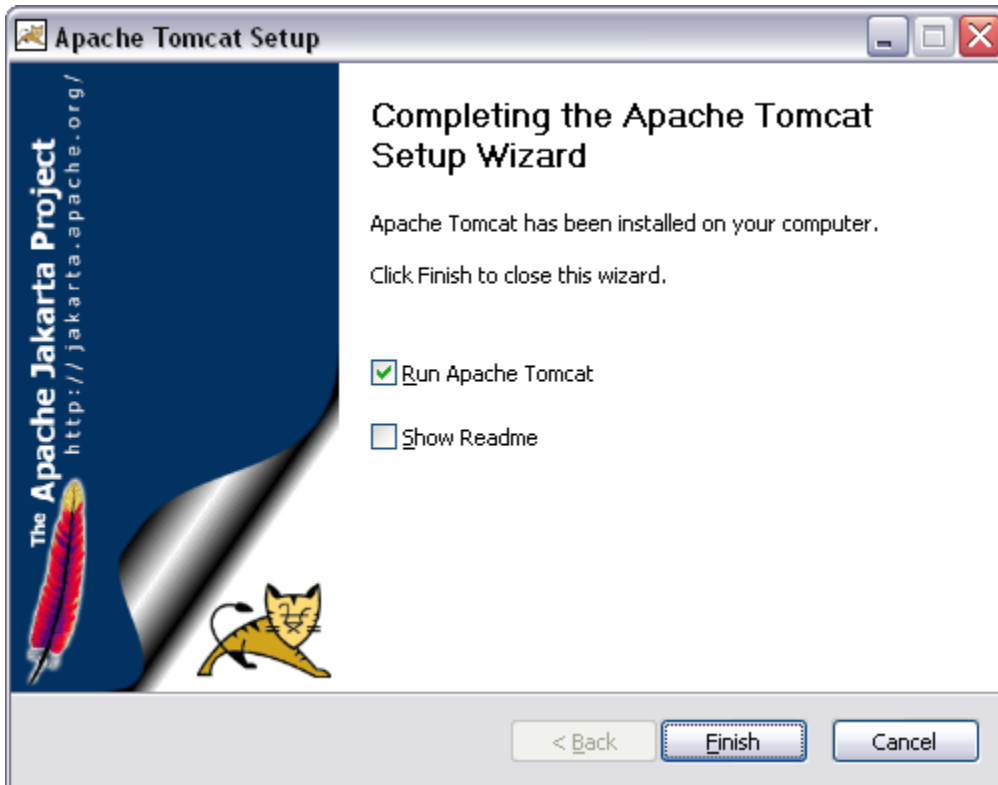
...

Nullsoft Install System v2.0

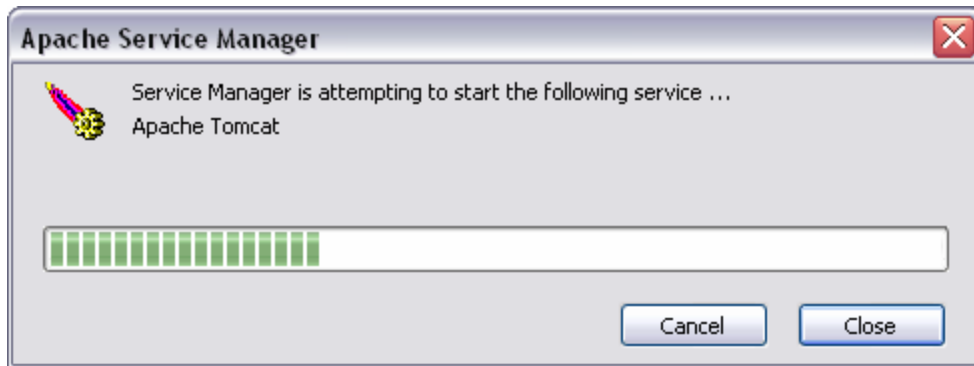
< Back   Install   Cancel



5. Click Finish.



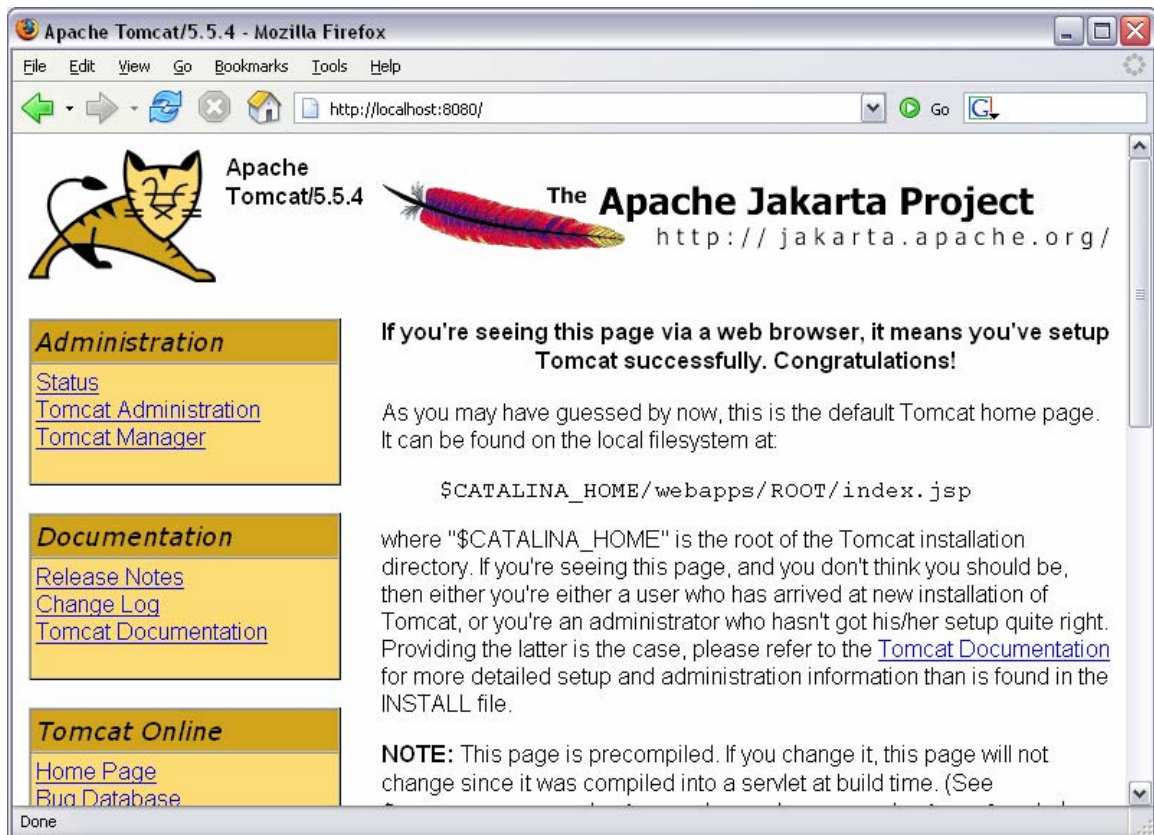
6. **Test:** Start Tomcat. If you chose Run Apache Tomcat on the previous screen, it will start automatically.



You should see two icons in your system tray at this time.



Open <http://localhost:8080/> in a web browser. You should see something like the following:



7. Extract **mod\_jk2.so** from [jakarta-tomcat-connectors-jk2.0.4-win32-apache2.0.49.zip](#) to C:\Program Files\Apache Group\Apache2\modules.
8. Add the following to the "Load Modules" section of your Apache http.conf file

```
LoadModule jk2_module modules/mod_jk2.so
```

9. Create a new text document called **workers2.properties**. Save this document in the following directory: C:\Program Files\Apache Group\Apache2\conf. Put this text into the file:

```
[shm]
file=C:\Program Files\Apache Group\Apache2\logs\jk2.shm
size=1048576

[channel.socket:localhost:8009]
port=8009
host=127.0.0.1

[ajp13:localhost:8009]
channel=channel.socket:localhost:8009

[status:status]

[uri:/jsp-examples/*]
worker=ajp13:localhost:8009

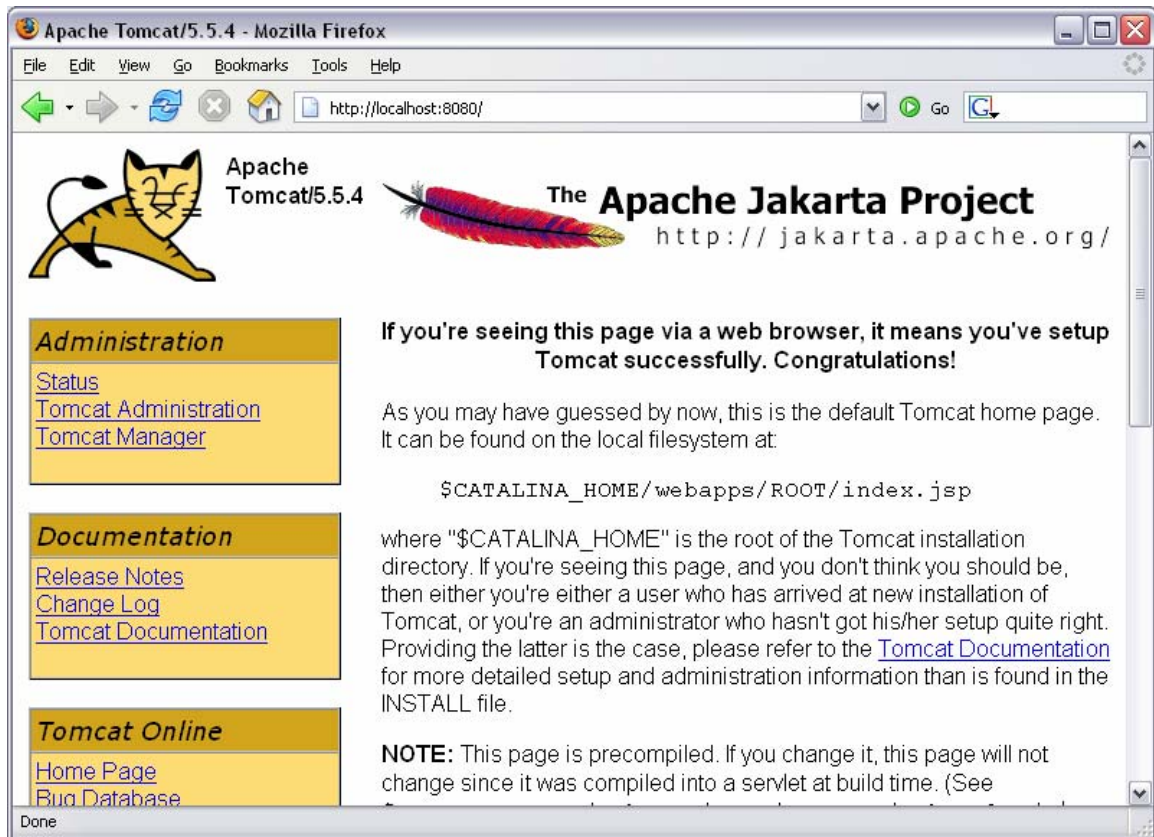
[uri:/status/*]
worker=status:status
```

10. Add the following to the end of the **jk2.properties** file located in C:\Program Files\Apache Software Foundation\Tomcat 5.5\conf\:

```
handler.list=channelSocket,request
channelSocket.port=8009
channelSocket.address=127.0.0.1
```

11. **Note:** Always start Tomcat first and then start Apache. If you have to bounce Tomcat, remember to take down Apache first and restart it after Tomcat restarts.

**Test:** Begin by shutting down both Apache and Tomcat. Start the Tomcat service. Open <http://localhost:8080/> in a web browser. You should see something like the following:



If you installed the examples, test out the JSP Examples as well as the Servlet Examples to make sure they work. If they do not work, something is wrong with your Tomcat installation. (It's much easier to stop the Tomcat service, uninstall it, and start over again. Troubleshooting this is not fun as there's little documentation available.)

**Test:** Start up the Apache2 service and open <http://localhost/> in a web browser. Still working?

**Test:** Now try <http://localhost/phpinfo.php> to make sure that's still in working order.

**Final Test:** Open <http://localhost/jsp-examples/> in a browser, you should see something like the following:

JSP Examples - Mozilla Firefox

File Edit View Go Bookmarks Tools Help




http://localhost/jsp-examples/

## \ JSP Samples

This is a collection of samples demonstrating the usage of different parts of the Java Server Pages (JSP) specification. Both JSP 2.0 and JSP 1.2 examples are presented below.

These examples will only work when these pages are being served by a servlet engine; of course, we recommend [Tomcat](#). They will not work if you are viewing these pages via a "file://..." URL.





To navigate your way through the examples, the following icons will help:

-  Execute the example
-  Look at the source code for the example
-  Return to this screen

Tip: For session scoped beans to work, the cookies must be enabled. This can be done using browser options.

### JSP 2.0 Examples

#### Expression Language

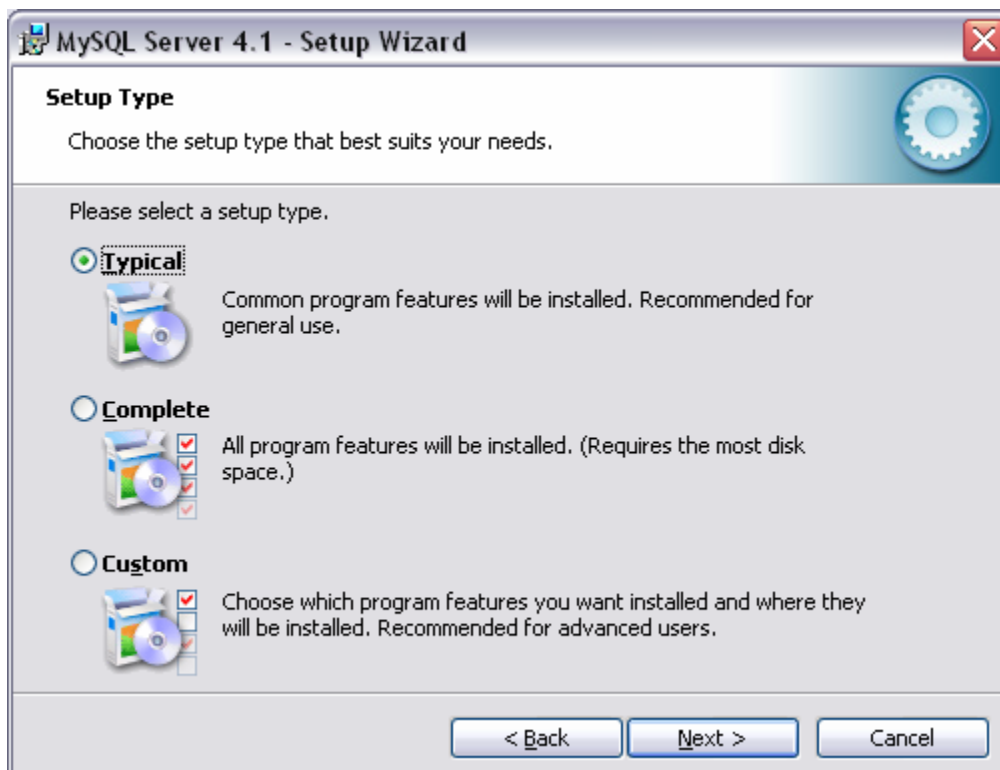
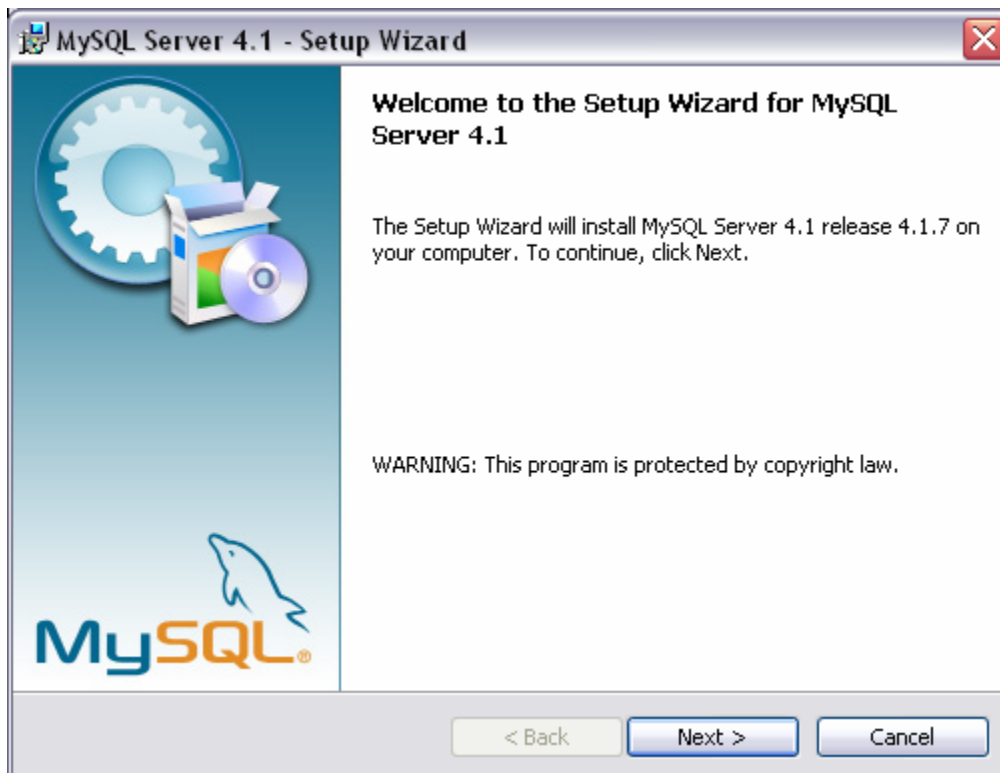
Basic Arithmetic	 <a href="#">Execute</a>	 <a href="#">Source</a>
Basic Comparisons	 <a href="#">Execute</a>	 <a href="#">Source</a>

Done



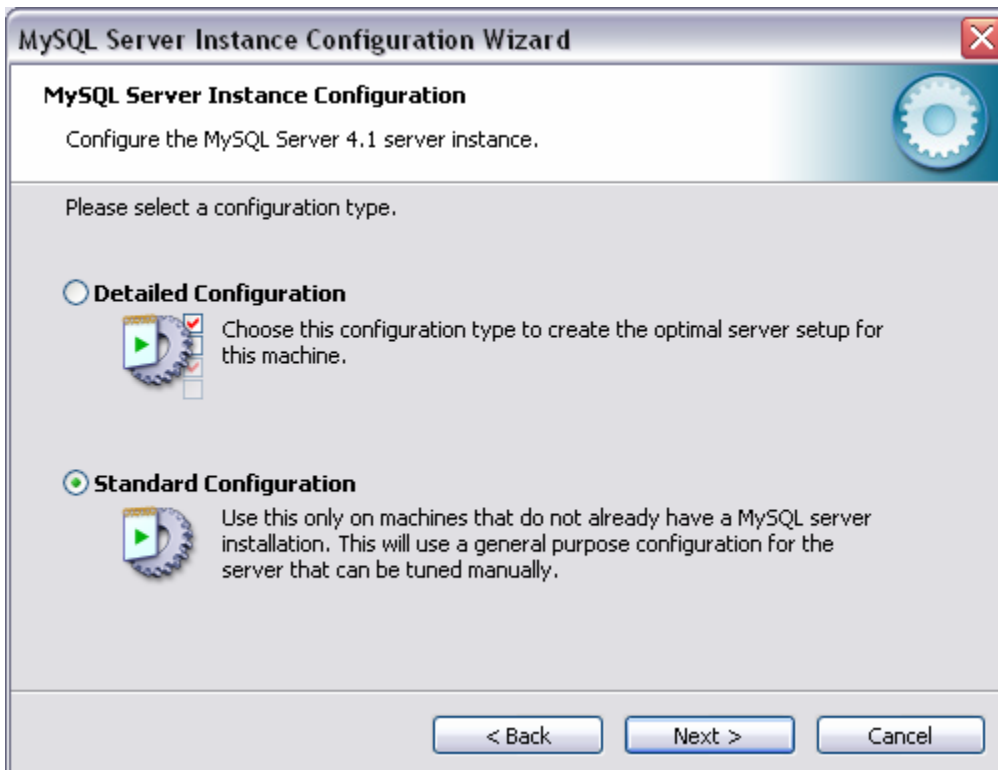
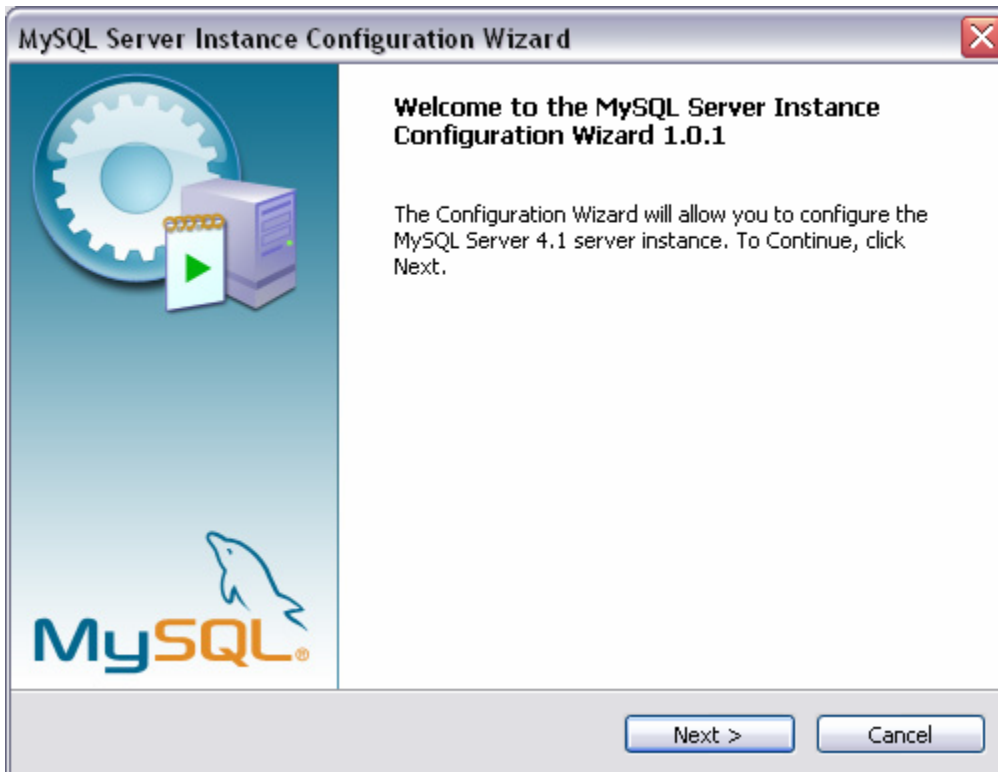
# MySQL

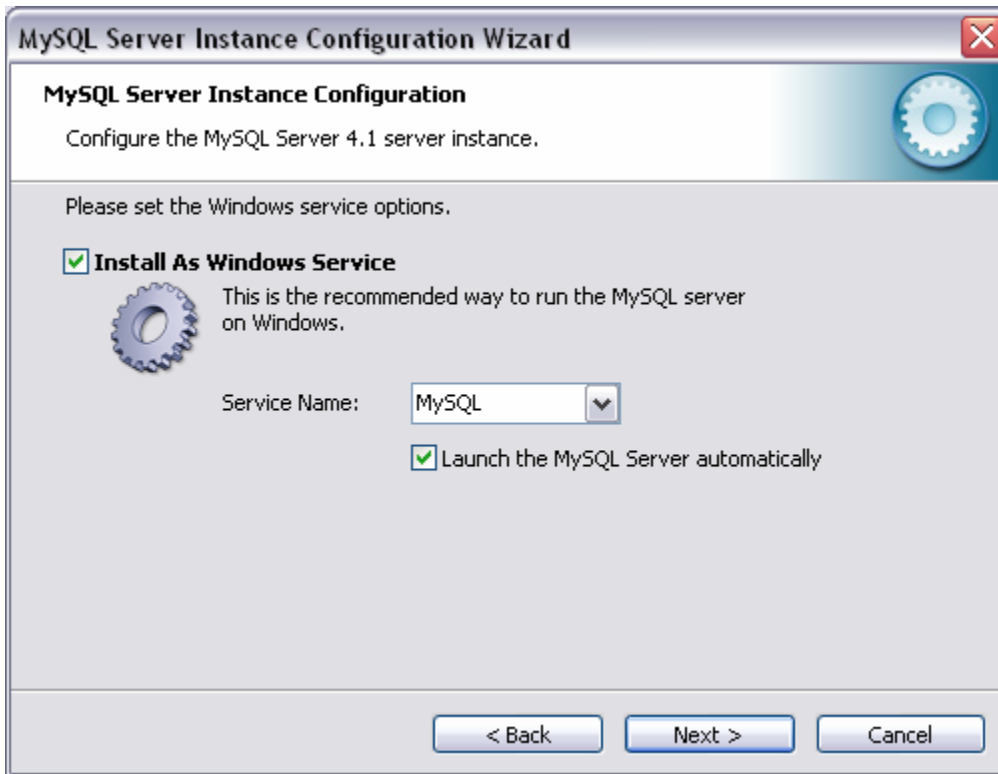
1. Run **setup.exe** from **mysql-4.1.7-win.zip**.



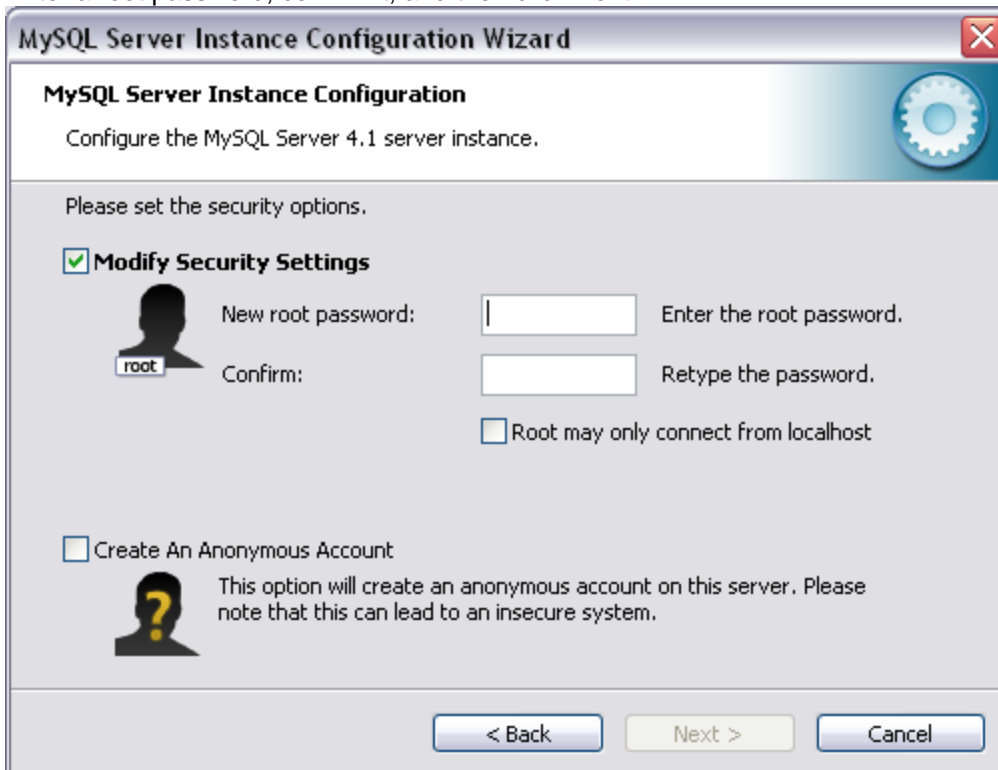


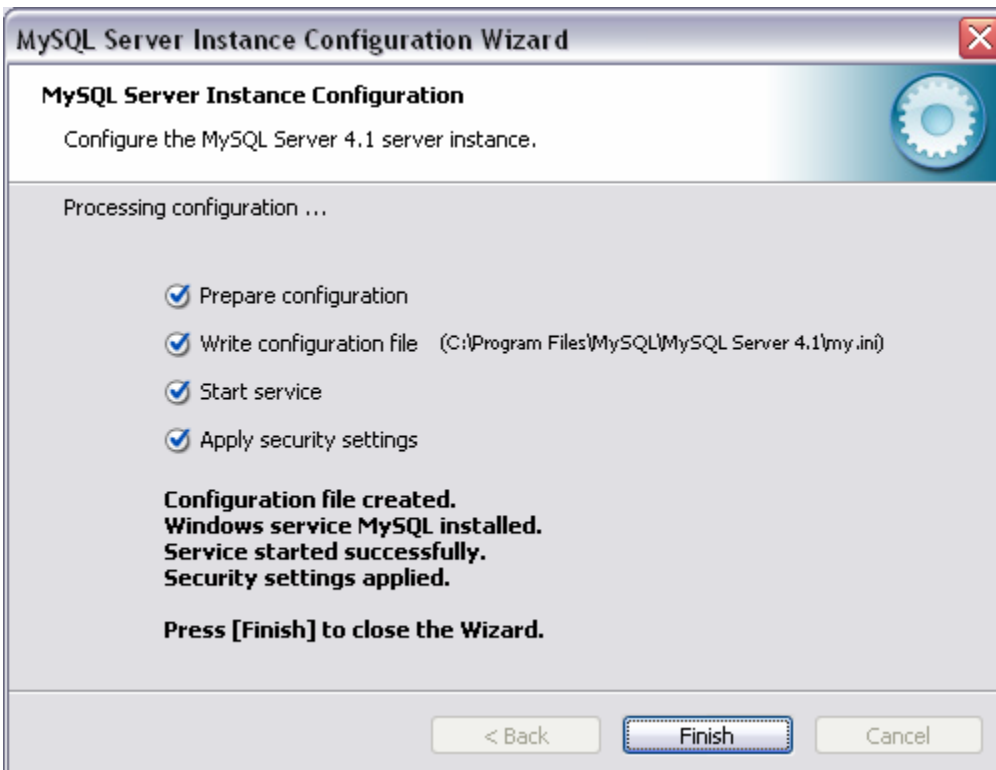
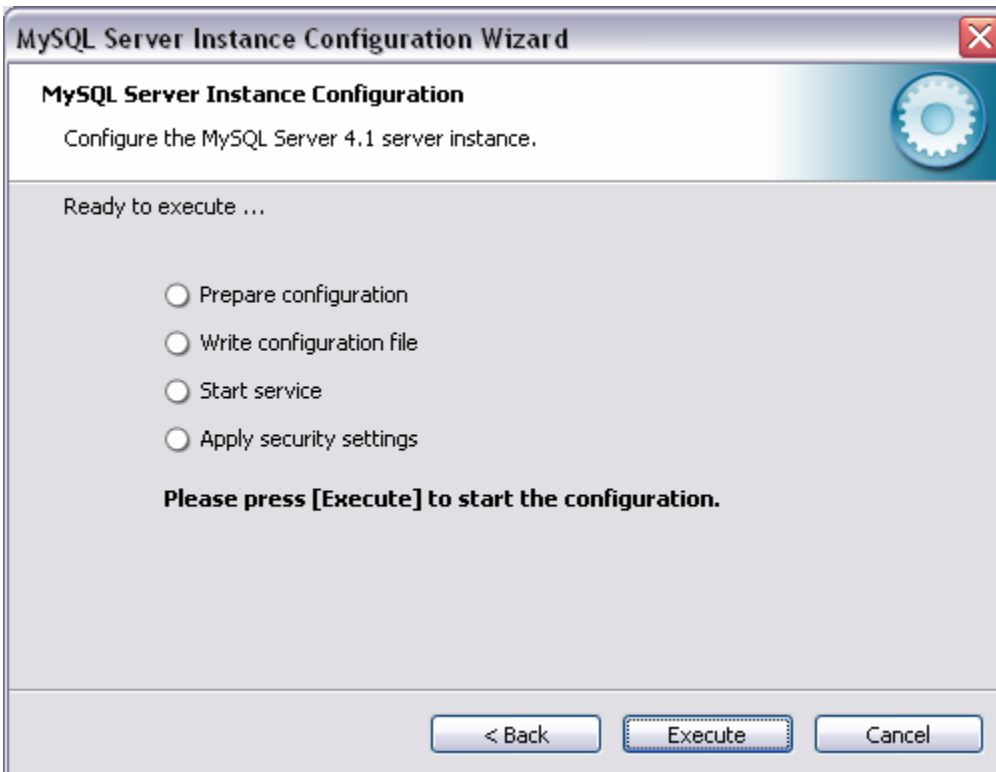




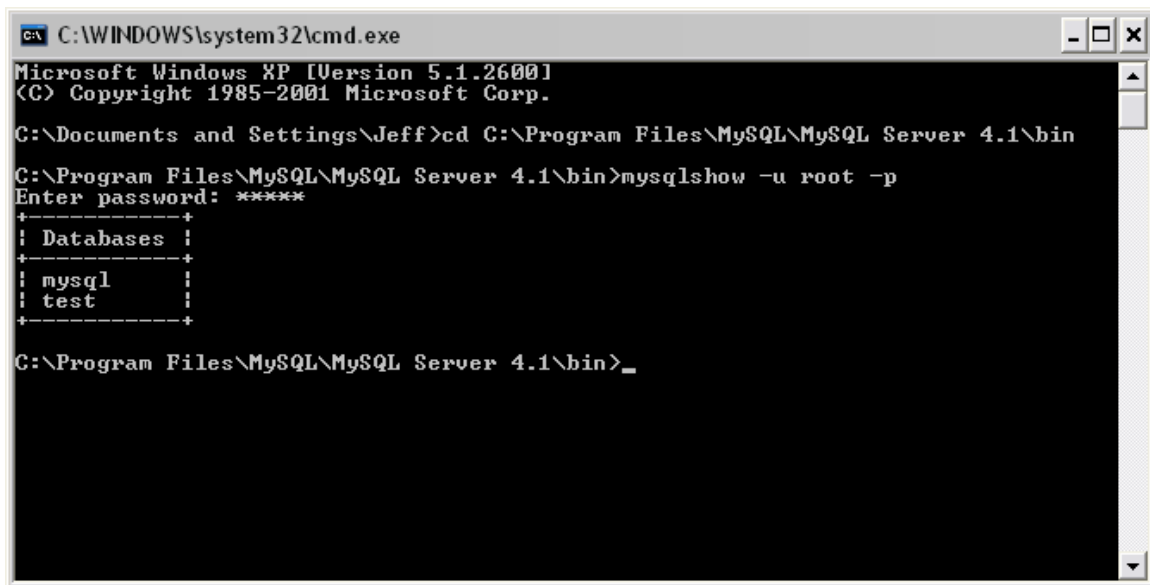


Enter a root password, confirm it, and then click **Next >**.





2. **Test:** Open a command prompt and navigate to C:\Program Files\MySQL\MySQL Server 4.1\bin\ Type in the command `mysqlshow -u root -p`. Enter the password you supplied earlier. It should display the current databases.



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

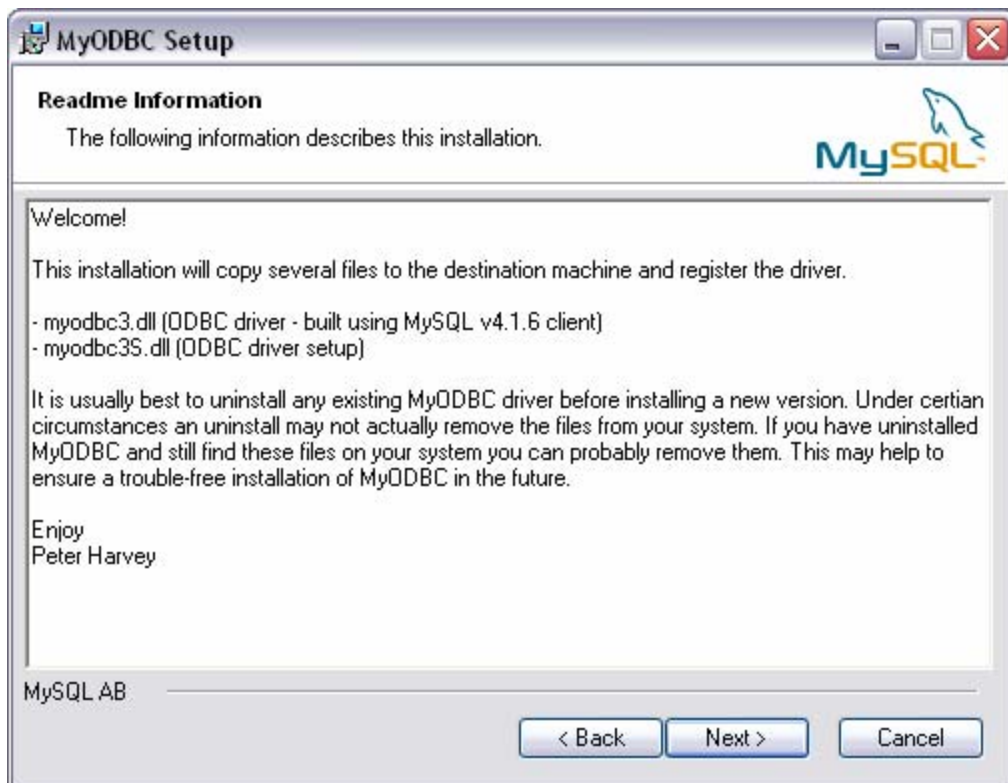
C:\Documents and Settings\Jeff>cd C:\Program Files\MySQL\MySQL Server 4.1\bin
C:\Program Files\MySQL\MySQL Server 4.1\bin>mysqlshow -u root -p
Enter password: *****
+-----+
| Databases |
+-----+
| mysql    |
| test     |
+-----+

C:\Program Files\MySQL\MySQL Server 4.1\bin>_
```

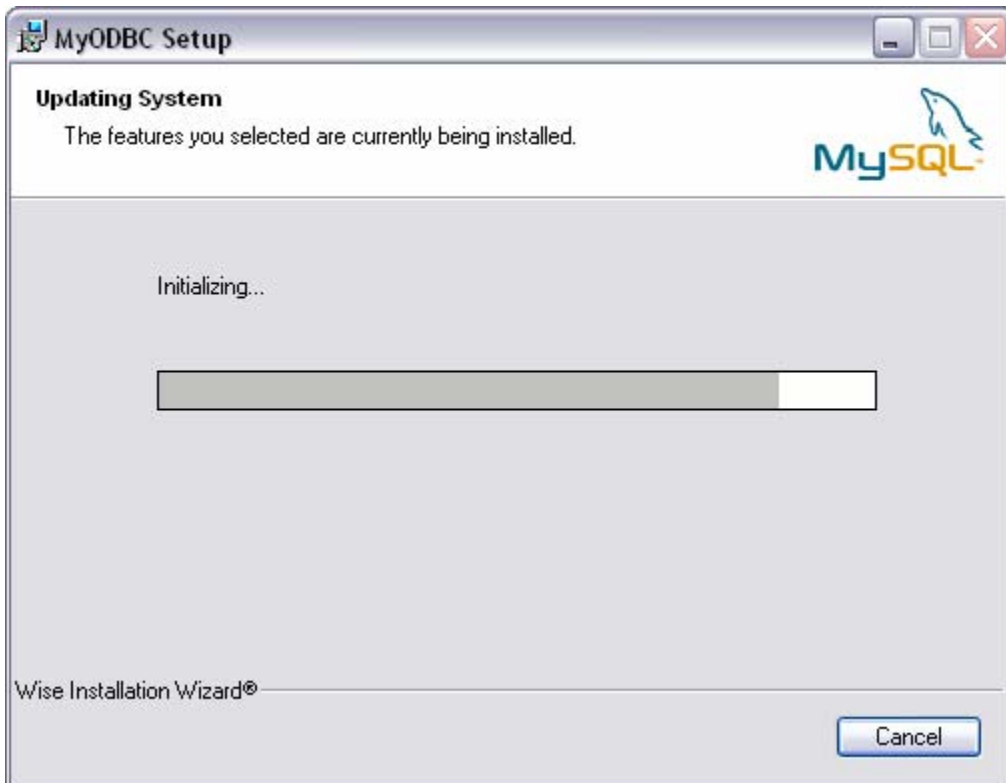
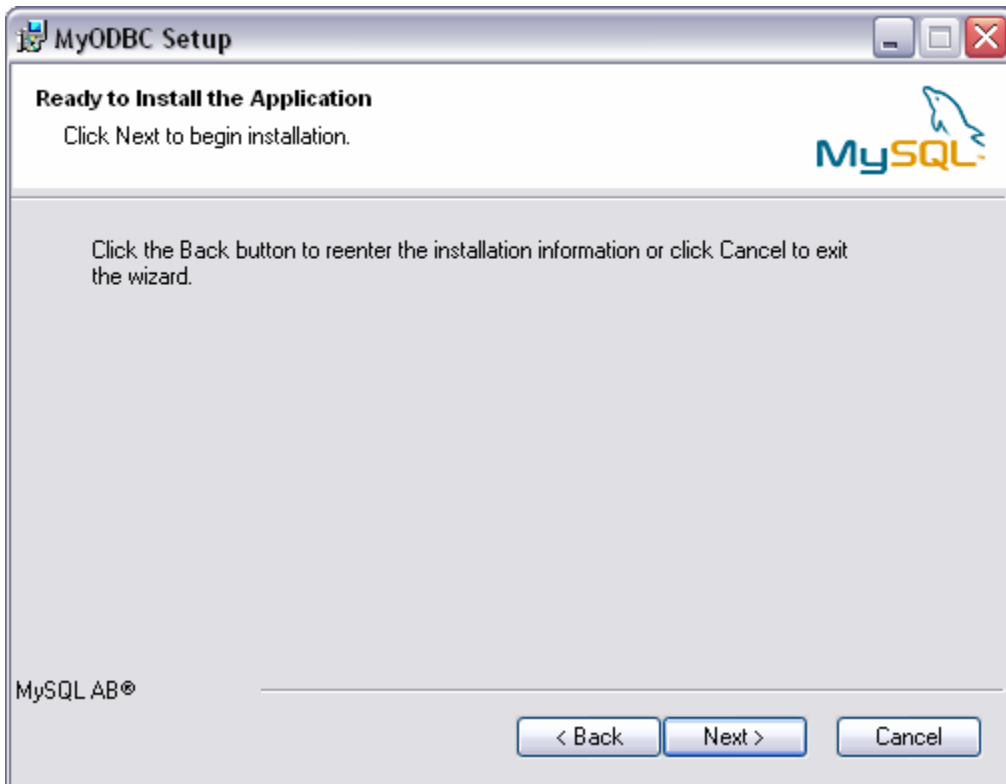
## MyODBC

1. Run [MyODBC-3.51.06.exe](#).  
**Note:** Installing MyODBC is optional.









2. Click **Finish**.



## PHPMYAdmin

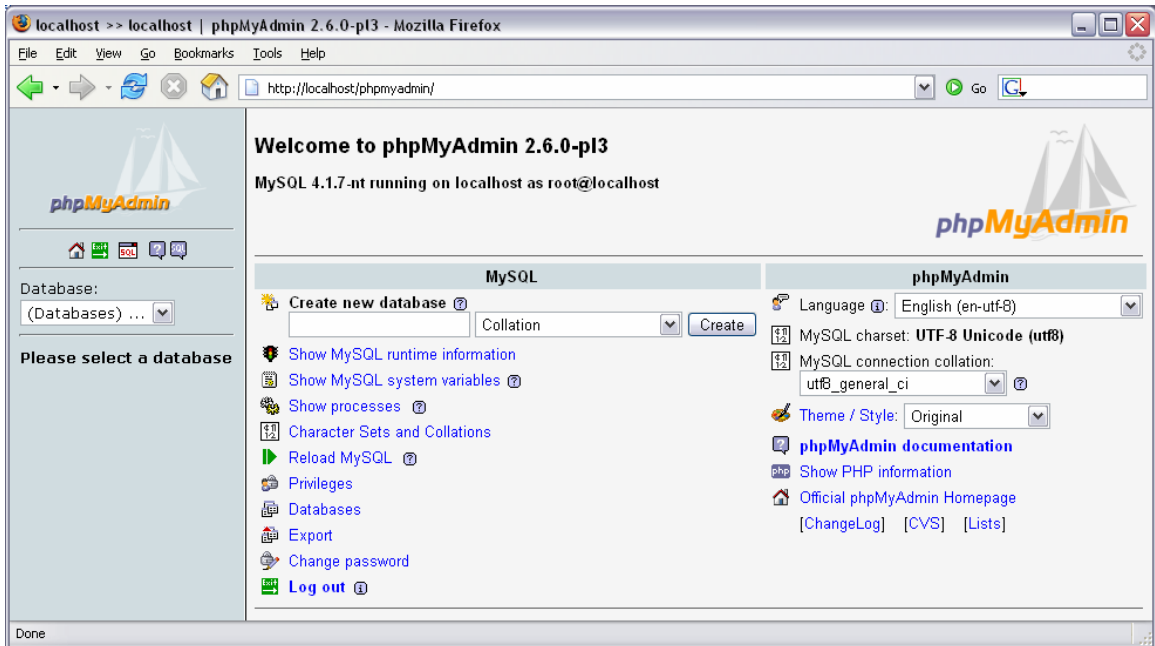
1. Extract [phpMyAdmin-2.6.0-pl3.zip](#) to your *htdocs* directory and rename it to something like "phpmyadmin" (e.g. C:\Program Files\Apache Group\Apache2\htdocs\phpmyadmin).

**Note:** You may want to use a `.htaccess` file or use the following to prevent random people from accessing PHPMyAdmin.

2. Open the `config.inc.php` (in the `phpmyadmin` directory) in your favorite text editor and modify the following variables:

```
$cfg['PmaAbsoluteUri'] = 'http://localhost/phpmyadmin/';  
  
$cfg['Servers'][$i]['extension'] = 'mysqli';  
  
$cfg['Servers'][$i]['auth_type'] = 'http';
```

3. Open <http://localhost/phpmyadmin/> and login using "root" (password is whatever you set it to earlier).



Congratulations!!!

## **Resources**

### **Apache**

<http://www.apache.org/>

### **PHP**

<http://www.php.net/>

### **Perl**

<http://www.perl.com/>

<http://www.activestate.com/>

### **JSP**

[http://www.acg-gmbh.de/mod\\_jk/](http://www.acg-gmbh.de/mod_jk/)

<http://www.galatea.com/flashguides/apache-tomcat-24-win32.xml>

<http://www.jguru.com/faq/view.jsp?EID=853905>

### **MySQL**

<http://www.mysql.com/>

<http://www.phpmyadmin.net/>

### **Thanks!**

Special thanks to Andrew Conrad, Rick Reumann, Dallas Thunder, Andrei Isakov, and Mark Gearhart for their helpful feedback.